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Peerless Forming Die Test Press: Hydraulic Motion Control System

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Abstract

The problem being addressed is that a new machine called a 'Forming Die Test Press" needs to be built by Peerless Machine and Tool Corp. in Marion Indiana which will require a new control system to be developed for it. The original control system is no longer available so it is important that a new system can be developed in a timely manner to meet the needs of the customer.

Two different systems of controls were evaluated and the G&L Controls system for motion control was selected. In particular, the MMC Analog Standalone motion controls system. To make the motion control system complete, a MTS brand Linear Position Transducer will be used for position sensing, and the Rapid Controls (SAB-Q2) PWM to Encoder converter will be used to provide the encoder input to the MMC motion controller.

The G&L PicPro software will be used for creating the ladder logic program for running the machine. The single hydraulic axis forming die test press will be capable of testing the performance of newly built forming dies. The machine will be capable of reproducing a 40 stroke per minute speed equivalent to that of a production machine.

All systems will be thoroughly checked for proper operation and the requirements for EC Declaration of Conformity will be met. This will be a significant accomplishment for Peerless Machine and Tool because completing this project will provide the basis and technology needed to create a retrofit system of controls for machines already out in the field.

Keywords: Rapid Controls, G&L Controls, MMC Analog Standalone, Linear Position Transducer, PicPro Software, MTS, Peerless Machine and Tool Corp., Forming Die Test Press

Table of Contents

Abstract	**i**
List of Figures	**iv**
List of Tables	**vi**
Executive Summary	**vii**
Chapter 1 Introduction	**1**
1.1 Introduction to Peerless Machine	**1**
1.2 The Problem for Peerless Machine	**1**
1.3 Supporting Background Information for the Project	**1**
1.4 Machine Design Requirements	**2**
1.5 Implementation Plan for the Project	**3**
1.6 Project Purpose and Overview	**4**
Chapter 2 System Design Overview and Research	**5**
2.1 Trade Off Study	**5**
2.2 Forming Die Test Press Design Process	**6**
2.3 Safety Requirements for the Forming Die Test Press	**6**
2.4 Final Deliverables for the Forming Die Test Press Project	**8**
Chapter 3 Hardware Design	
3.1 Test Press Motion Control System Design (Electronic)	**9**
3.2 Test Press Motion Control System Design (Hydraulic)	**15**
3.3 Safety Methods in place on the Forming Die Test Press	**19**
3.4 Machine Controls Available on the Operator Side of the Machine	**23**
3.5 Calculations used in the Hydraulic Control System design	**25**
3.6 Final Machine Specifications	**25**
Chapter 4 Software Design	**27**
4.1 Introduction to the Software	**27**
4.2 PicPro 17.0 professional Development Software	**27**
4.3 Information Designer Software	**34**
4.4 Hyper Terminal Software	**34**
4.5 UML Diagrams: State Transition and Machine Cycle Timing Sequence	**36**
Chapter 5 Unit Testing	
5.1 System Integration, Testing and Validation	**41**

Chapter 6 Project Management 50
6.1 Schedule and Time Management 50
6.2 Resource and Cost Management 52
6.3 Quality Management 54
6.4 Risk Management 54
6.5 Project Procurement 55
6.6. Lessons Learned 56

Chapter 7 Conclusion 57
7.1 Conclusion to the Peerless Forming Die Test Press Project 57

References 59

Appendices 61

List of Figures

Figure 1. Hydraulic Motion Control System Components Connectivity Diagram 9
Figure 2. Test Press Electrical Enclosure Motion Control Components 10
Figure 3. Rapid Controls SAB-Q2 PWM to Encoder Converter Module 11
Figure 4. Indicators Page 12
Figure 5. Home Page Provides Language Selection 12
Figure 6. Setup Page for Operator Input 13
Figure 7. Temperature Page for Heat Selection 14
Figure 8. Systems Page for Systems Control 15
Figure 9. Peerless Forming Die Test Press Hydraulic Power Unit 16
Figure 10. Parker D41 Proportional Valve 17
Figure 11. Accumulator Drain Valve 18
Figure 12. Pressure Reducing Valve and MTS Linear Position Transducer 18
Figure 13. Hydraulic Counter Balance Valve and Hydraulic Axis Lock Valve 19
Figure 14. Opposite Operator Guard Switch 20
Figure 15. Operator Guard Switch 20
Figure 16. Operator Side Sliding Guard Door and Switch 21
Figure 17. Forming Head Safety Block in its Switch 22
Figure 18. Head Lock Pins in the Extended Position 23
Figure 19. Operator Side Machine Controls 24
Figure 20. PicPro Professional Programming Environment 28
Figure 21. Hydraulic Start Network 29
Figure 22. Servo Setup File Parameters for Scaling Data 30
Figure 23. Servo Setup File Parameters for Iterator Data 30
Figure 24. Servo Setup File Parameters for Position Data 31
Figure 25. TESTPRES Function Block 31
Figure 26. PicPro Hardware Declarations 32
Figure 27. PicPro Software Declarations 33
Figure 28. Information Designer Programming Environment 34
Figure 29. Rapid Controls SAB-Q2 Programming using Hyper Terminal 36
Figure 30. State Transition Diagram 37
Figure 31. Timing Sequence for a Machine Cycle Operation 38
Figure 32. General System Block Diagram using the 8 System Operations 39
Figure 33.a. Setup and Machine Operations Testing Form sheet 1 42
Figure 33.b. Setup and Machine Operations Testing Form sheet 2 43
Figure 34. Spool Position Test Port Location on the Printed Circuit Board 49
Figure 35. Nominal Flow vs. Command Signal 49
Figure 36. Heat Control Operations E.I
Figure 37.a. Sheet 1 of the Hydraulic Start Operation E.II
Figure 37.b. Sheet 2 of the Hydraulic Start Operation E.III
Figure 38. Homing Operation for the machine E.IV
Figure 39. Go To Position Operation E.V

Figure 40.a. Cycle Start Operation sheet 1 **E.VI**
Figure 40.b. Cycle Start Operation sheet 2 **E.VII**
Figure 41. Lock Pins Operation **E.VIII**
Figure 42. Sliding Guard Door Operation **E.IX**
Figure 43.a. Manual Operation of the Forming Head sheet 1 **E.X**
Figure 43.b. Manual Operation of the Forming Head sheet 2 **E.XI**

List of Tables

Table 1. Trade Off Study	**6**
Table 2. Final Specifications	**26**
Table 3. Gantt chart 1	**50**
Table 4. Gantt chart 2	**51**
Table 5. Gantt chart 3	**51**
Table 6. Gantt chart 4	**52**
Table 7. Peerless Forming Die Test Press Project Cost	**53**
Table 8. Risk associated with completing this project	**55**
Table 9. Controls Bill of Materials	**D.I**
Table 10. Hydraulic Bill of Materials	**D.II**
Table 11.a Electricals Bill of Materials	**D.III**
Table 11.b Electricals Bill of Materials	**D.IV**
Table 12. Mechanical Bill of Materials	**D.V**